

Application No.: 10/826,245
Response To Restriction Requirement dated January 24, 2005
Reply to Office Action of December 23, 2004

Please add the following new claims 41 – 53 are as follows:

Claims 1-40 (Cancelled)

41. (New) An inductor, comprising:
a first dielectric layer over a semiconductor substrate;
a first magnetic layer comprising an amorphous alloy which includes cobalt formed over the first dielectric layer;
a second dielectric layer formed over the first magnetic layer;
a conductive layer formed over the second dielectric layer, the conductive layer having a spiral-shape;
a third dielectric layer formed over the conductive layer;
a second magnetic layer formed over the third dielectric layer; and
a magnetic core in the center of the spiral-shape of the conductive layer, the magnetic core putting the second magnetic layer into contact with the first magnetic layer to form the inductor as part of a semiconductor based integrated circuit.
42. (New) The inductor of claim 41, wherein the spiral-shape of the conductive layer comprises one or more turns.
43. (New) The inductor of claim 42, wherein the one or more turns have a generally octagonal shape.
44. (New) The inductor of claim 41, wherein the first magnetic layer is patterned.
45. (New) The inductor of claim 44, wherein the first magnetic layer is patterned to further comprise slots perpendicular to the flow of current through the conductive layer.
46. (New) The inductor of claim 41, wherein the second magnetic layer is patterned.
47. (New) The inductor of claim 46, wherein the second magnetic layer is patterned to further comprise slots perpendicular to the flow of current through the conductive layer.

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48. (New) The inductor of claim 41, wherein the first magnetic layer and the second magnetic layer are formed of the same material.
49. (New) The inductor of claim 41, further comprising a first adhesion layer underlying the conductive layer.
50. (New) The inductor of claim 41, further comprising a second adhesion layer overlying the conductive layer.
51. (New) The inductor of claim 41, further comprising a first barrier layer underlying the conductive layer.
52. (New) The inductor of claim 41, further comprising a second barrier layer overlying the conductive layer.
53. (New) The inductor of claim 41, wherein the amorphous alloy which includes cobalt comprises cobalt and an element or elements selected from the group consisting of zirconium, tantalum, niobium, rhenium, neodymium, praseodymium, or dysprosium.